October 31, 2008

FINDING OF NO SIGNIFICANT IMPACT

TO ALL INTERESTED GOVERNMENTAL AGENCIES AND PUBLIC GROUPS

As required by state and federal rules for determining whether an Environmental Impact Statement is necessary, an environmental review has been performed on the proposed action below:

Project	Hamilton Wastewater Facility Phase 1 Upgrade
Location	Hamilton, Montana
Project Number	C301214-01
Total Cost	$3,920,000

From the 2006 Wastewater Facilities Plan, it is recommended that the City upgrade their wastewater treatment facility and portions of the collection system. Some of the existing treatment facility's major process equipment is 17 years old and is near the end of their useful life. Furthermore, some process equipment does not have adequate capacity to handle current peak and projected flows into the near future. The existing WWTF has some odors associated with the headworks, aerobic digesters, solids storage basins and seasonal sludge dewatering/drying beds. In addition to the odors, the compost area requires expansion or alternate handling/disposal systems. The groundwater aquifers in the Hamilton area are the sole source of potable drinking water for the community and (failing) on-site wastewater disposal systems (septic tanks and drainfields) may be impacting the groundwater quality by contributing contaminants to the community drinking water supply. The city wishes to size the treatment facilities to serve the outlying areas (planning area) in order to connect these areas in the future.

Based on the priority of the needed improvements and the desire of the City to spread out the capital outlays necessary to construct the required facilities, the treatment plant improvements will be implemented in four phases. The first phase of recommended improvements at the WWTF would provide a wastewater treatment capacity of 1.62 mgd and would insure the WWTF would meet the needs for expected growth in the community to the year 2025, at a growth rate of 4 percent.

Environmentally sensitive characteristics such as wetlands, floodplains, threatened or endangered species, and historical sites will not be adversely impacted as a result of the proposed project. No significant long-term environmental impacts were identified. An environmental assessment (EA), which describes the project and analyzes the impacts in more detail, is available for public scrutiny on the Department of Environmental Quality website: www.deq.mt.gov or at the following locations:

Department of Environmental Quality
1520 East Sixth Avenue
P.O. Box 200901
Helena, MT 59620-09011
jpaddock@mt.gov

City of Hamilton
223 South Second Street
Hamilton, MT 59840

Comments on the EA may be submitted to the Department of Environmental Quality at the above address. After evaluating substantive comments received, the department will revise the environmental assessment or determine if an environmental impact statement is necessary. If no substantive comments are received during the comment period, or if substantive comments are received and evaluated and the environmental impacts are still determined to be non-significant, the agency will make a final decision. No administrative action will be taken on the project for at least 30 calendar days after release of the Finding of No Significant Impact.

Sincerely,

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Todd Teegarden, Bureau Chief
Technical and Financial Assistance Bureau

CITY OF HAMILTON
PHASE 1 WASTEWATER FACILITY PLAN UPGRADE

ENVIRONMENTAL ASSESSMENT

I. COVER SHEET

A. PROJECT IDENTIFICATION

Name of Project:	Hamilton Wastewater Facility Phase 1 Upgrade
Applicant:	City of Hamilton
Address:	223 South Second Street City of Hamilton, MT 59840
Project Number:	C301214-01

B. CONTACT PERSON

Name:	Jerry Steele, Mayor
Address:	223 South Second Street City of Hamilton, MT 59840
Telephone:	(406) 363-0191

C. ABSTRACT

The City of Hamilton, through the Hamilton Wastewater Facilities Report February 2006 (WFR) and Preliminary Design Memoranda July 31, 2008 (PDM) prepared by HDR Engineering, Inc, has identified the need to upgrade their wastewater treatment facility (WWTF) and collection system. Some of the existing treatment facility's major process equipment is 17 years old and is near the end of their useful life. Furthermore, some process equipment does not have adequate capacity to handle current peak and projected flows into the near future. The existing WWTF has some odors associated with the headworks, aerobic digesters, solids storage basins and seasonal sludge dewatering/drying beds. In addition to the odors, the compost area requires expansion or alternate handling/disposal systems. The groundwater aquifers in the Hamilton area are the sole source of potable drinking water for the community and (failing) on-site wastewater disposal systems (septic tanks and drainfields) may be impacting the groundwater quality by contributing contaminants to the community drinking water supply. The city wishes to size the treatment facilities to serve the outlying areas (planning area) in order to connect these areas in the future.

The Hamilton WWTF is authorized to discharge to the Bitterroot River through Montana Pollutant Discharge Elimination System under permit number MT-0020028. Changes in future permits may have implications for future treatment requirements from the WWTF, which are likely to require upgrading existing equipment once a Total Maximum Daily Load (TMDL) or nutrient management plan has been adopted for the Bitterroot River. No TMDL has been "adopted" for the Bitterroot River to date. In addition to nutrient loading requirements, future permits are likely to require year-round disinfection and may not allow a mixing zone for fecal coliform (*E. coli)* of the discharged water. Since chlorine is currently used for disinfection, dechlorination will likely be required in future permits.

In response to these needs, the City decided to develop a long-range plan to maintain and expand the city infrastructure. As a result, the City prepared a WFR to provide a master plan for the collection system and WWTF, which includes for the ultimate expansion of the facilities and identified a program for upgrades and capacity requirements to year 2045. Based on the priority of the needed improvements, the flexibility to incorporate future treatment processes to meet permit compliance, and the desire of the City to spread the capital outlays out to construct the required facilities over several years, the improvements will be implemented in four phases. The first phase of recommended improvements at the WWTF would provide a wastewater treatment capacity of 1.62 mgd and would insure the WWTF would meet the needs for expected growth in the community to the year 2025, at a growth rate of 4 percent. First phase improvements include; upgrading several treatment processes to meet upcoming permit effluent quality requirements; replace aging equipment; and adding equipment to reduce the use of the city potable water. The WFR also recommended the Phase 1 improvements include replacing the existing pumps, electrical equipment, and providing a portable generator at the SID 17 lift station. Additional capacity will also enable unsewered areas to be connected to the city collection system, helping protect the groundwater aquifer which serves the city water system.

Costs for the proposed improvements are estimated to be $3,920,000. The City has obtained three grants totaling $1,080,000 and the City has also been appropriated a $500,000 “earmark” within the Interior Department’s State and Tribal Assistance Grants (STAG) program. If the STAG money becomes available (summer of 2009), the City will most likely use the money for lower priority improvements or to upsize some processes to facilitate future discharge requirements. A loan for $1,742,000 at 3.75% interest for 20 years will be obtained from the State Revolving Fund loan program. The City expects to pay approximately $648,000 in direct costs for the project.

Environmentally sensitive characteristics such as wetlands, floodplains, threatened or endangered species and historical sites are not expected to be adversely impacted as a result of the proposed project. Additional environmental impacts related to land use, water quality, air quality, public health, energy, noise, and growth were also assessed. No significant long-term environmental impacts were identified.

Under the Montana Water Pollution Control State Revolving Fund Act, the DEQ may loan money to municipalities for construction of public sewage systems.

The project will be constructed using standard construction methods and to minimize or eliminate pollutants during construction, best management practices will be implemented. A Stormwater Discharge General Permit and a construction-dewatering permit from the DEQ may be required prior to construction. No permits are required from the State Revolving Fund (SRF) section of the DEQ for this project.

The DEQ, Technical & Financial Assistance Bureau, has prepared this Environmental Assessment (EA) to satisfy the requirements of the National Environmental Policy Act (NEPA) and the Montana Environmental Policy Act (MEPA).

D. COMMENT PERIOD

Thirty (30) calendar days

II. PURPOSE OF AND NEED FOR ACTION

The City of Hamilton is located in Ravalli County, in western Montana along Highway 93 (see Figure 1). The existing WWTF was constructed in 1984 and consists of an above ground, plug-flow activated sludge facility which discharges to the Bitterroot River. In 1997, a return activated sludge and waste activated sludge pumping station was added, modifications were made to the secondary clarifiers, and an anoxic selector basin and dissolved air flotation tank were added to the treatment system. Some of the existing treatment facility's major process equipment are 17 years old and are near the end of their useful life. Additionally, some process equipment does not have adequate capacity to handle current peak flows and will not handle the future projected flows. The existing WWTF has some odors associated with the headworks, aerobic digesters, solids storage basins and seasonal sludge dewatering/drying beds. Furthermore, the compost area requires expansion or alternate handling/disposal systems and a non-potable water system should be installed at the WWTF. The existing WWTF is shown in Figure 2.

The City collection system consists of 2 to 27-inch diameter gravity sewers, forcemain piping, and includes six lift stations. A majority of the collection system was constructed in the 1950's and is clay pipe with hot poured asphalt joints. Since that time, PVC pipe has been utilized in the construction of the collection system. Most of the collection system is in good condition. However, there are several areas with clay pipe and high groundwater where infiltration of water is a significant problem. Since 1991 the city has made corrections to the collection system which may have reduced infiltration by over 3 millions gallons per day. In spite of these improvements, the city estimates that as much as 0.74 million gallons of water per day currently infiltrates into the collection system.

The Hamilton WWTF is authorized to discharge to the Bitterroot River under permit number MT-0020028. The current Montana Pollutant Discharge Elimination System (MPDES) permit has expired and is currently being renewed by the Montana Department of Environmental Quality (MDEQ). The current permit establishes maximum limits for biochemical oxygen demand (BOD), total suspended solids (TSS), fecal coliform bacteria, pH, oil and grease, and chlorine residual. The current permit places no limits on phosphorous, total nitrogen or ammonia.

In order to address the aging equipment concerns and provide capacity for the design wastewater flows and loads through the planning period, the wastewater treatment facility will need to be upgraded and expanded. In the future, to protect the groundwater aquifer in the Hamilton area, the outlying area (planning area) may need to be served by the city collection and treatment systems. The increased flows and loads from the planning area have been accounted for in the current planning/sizing of the WWTF. The infiltration of groundwater into the collection system will continue to be corrected through the City's current maintenance program. It is anticipated that future (once the TMDL process is complete) effluent discharge limits will include nutrient load limits (phosphorous and nitrogen), a more stringent chlorine residual, as well as year-round disinfection requirements. To meet future chlorine limits (if chlorine is used for disinfection), dechlorination will be required. A summary of existing and anticipated discharge limits is included in Table 1.

Table 1 Current and Anticipated Future Discharge Limits/Loads				
	Average Monthly Limit (current / **future**)	Average Weekly Limit (current / **future**)	Maximum Daily Limit (current / **future**)	Allocated load (lb/day) * (current / **future**)
BOD	30 / **30** mg/L	45 / **45** mg/L	NA	247 / **247**
TSS	30 / **30** mg/L	45 / **65** mg/L	NA	156 / **156**
Fecal Coliform Bacteria April 1 and ending October 31	9,200 / **See below**	18,400 / **See Below**	NA	NA
Oil and Grease (mg/L)	10			
pH	Between 6.0 and 9.0 in any single analysis or measurement			
Acute Toxicity	2.38 Toxic Units Acute			
Total Residual Chlorine (mg/L any grab sample)	0.5 current permit, 0.011 in future permits			
New Parameters and Anticipated <u>Future</u> Discharge Permit Limits/Loads**				
Phosphorous		0.03 to 0.04 mg/L		146 / **146**
Nitrogen		0.27 mg/L		36 / **36**
Summer E. Coli Bacteria (cfu/100ml)	126			
Winter E. Coli Bacteria (cfu/100ml)	630			
* Allocated loads were not included in permit **Based on May 2005 meetings with MDEQ				

III. ALTERNATIVES INCLUDING THE PROPOSED ACTION

Two alternatives for addressing the City's need to upgrade and expand its wastewater treatment facility were evaluated in the Wastewater Facility Plan (WFP). The planning effort was to characterize the condition of existing infrastructure, describe improvements necessary to protect the sole source of drinking water for the community (a Sole Source Aquifer) and other water resources, accommodate growth, evaluate growth trends, estimate future population, and develop a capital improvement plan for the wastewater system. The two alternatives included:

1. No Action
2. Upgrade Existing Wastewater Treatment Facility and Collection System

1. NO ACTION ALTERNATIVE – The no action alternative would involve making no improvements to the City's wastewater treatment facility. Many of the treatment system unit processes are operating at or close to capacity, and many are over 17 years old and nearing the end of their useful life. Also critical is the fact that the groundwater aquifers in the Hamilton area are the sole source of potable drinking water for the community and on-site wastewater disposal systems (septic tanks and drainfields) may be impacting the quality of the groundwater by contributing contaminants to the community drinking water supply. There are known failures of on-site septic systems within the Hamilton sewer service area. The City desires to take a leadership role in protecting the local environment, and maintain and improve the areas

water resources. To meet this need, the City decided to develop a long-range plan to maintain and expand the city infrastructure in order to responsibly manage the local wastewater. The WFP concluded that a high priority for the City should be to upgrade the wastewater treatment facility (WWTF) to better enable future connections of unsewered City and Ravalli County properties within the City's wastewater service boundary. Public health problems could potentially worsen within the City's current planning area and adjacent to the WWTF. On-site wastewater disposal systems are located in the City's water well protection zones. These on-site disposal systems do not have disinfection systems and may lead to contamination of the Hamilton area aquifer. Failure to implement the recommended WFP improvements in a timely manner may have significant adverse impacts on the City, including:

a. Non compliance with discharge permit requirements;
b. Raw sewage spills, and associated public health impacts;
c. Water quality impacts to the groundwater/city water supply; and
d. Inability to handle wastewater generated by the community.

Given these possible adverse impacts, as well as continued growth in area, the no action alternative was not considered viable and was not evaluated further.

2. UPGRADE EXISTING WASTEWATER TREATMENT FACILITY AND COLLECTION SYSTEM ALTERNATIVE

The Hamilton Wastewater Facilities Report February 2006 (WFR), prepared by HDR Engineering, Inc, identified the need to upgrade their wastewater treatment facility, plan for telemetry upgrades at all new lift stations, and install new pumps at the SID 17 lift station. Depending on regulatory requirements and to spread-out the capital costs to construct the improvements, the WFR recommended the improvements be split into 4 phases. The Phase 1 improvements were considered the most urgent improvements required at the Hamilton wastewater treatment facility (WWTF) and on the collection system, and the WFR recommended these improvements be completed immediately. The WFR recommended that the Phase 2 and 3 improvements be completed by 2015 and the long-term improvements (Phase 4) be completed by 2045.

Phase 1:
Treatment system improvements recommended in the WFR and PDM for Phase I would address immediate capacity issues, replace aging equipment, add equipment to reduce the use of the city potable water (approximately 800,000 gallons per month) at the WWTF, and would help meet upcoming permit effluent quality. Because of recent changes in construction costs and some uncertainty about future funding sources, the PDM included high priority and lower priority improvements. The schedule of the construction phases and costs are discussed in greater detail below. High priority improvements included: replacement of the influent screening and flow measurement equipment, add an additional dissolved air flotation thickener (DAFT), install a non-potable water supply (re-use of treated wastewater), and install new sludge dewatering system. The lower priority improvements include: compost bed expansion, solids storage improvements, and replace the pump and electrical equipment in the SID 17 lift station. The Phase 1 improvements would be designed for 2025 flow conditions.

The influent bar screens, float pumps, sludge pumps to drying beds, and the thickened waste activated sludge pumps are over 17 years old and should be rehabilitated or

replaced. The existing screening equipment will be replaced with a spiral screen to eliminate multiple handling of screenings, storing and drying of the screenings onsite, and to reduce the potential for odor generation. A new influent screen should aid downstream processes in the WWTF and overall help the facility meet its required performance. The existing flow measurement method (level sensor and transmitter) should be replaced with a new ultrasonic level sensor to aid in the accuracy of measuring the influent flow.

The existing solids thickening system (dissolved air flotation thickener) does not have adequate capacity to handle current peak loading or the projected 2025 loading and therefore an additional dissolved air flotation thickener (DAFT) and associated pumps and piping is necessary. An additional DAFT will also provide redundancy for the system. The PDM recommended a DAFT unit identical to the existing unit. However the City wishes to include an option in the contract documents to oversize the DAFT unit to provide the WWTF additionally capacity/redundancy.

The WWTF uses approximately 800,000 gallons per month of potable water at the WWTF which a non-potable (re-use of treated wastewater) water supply could provide. A non-potable supply would reduce the reliance on City water and substantially reduce the amount of potable water that the City has to produce. The recommendation in the WFR is to construct a new non-potable water supply system (pumps and associated piping) to serve the locations where non-potable water can be utilized (for lubricating seals, equipment washing, irrigation, etc). The non-potable water supply system would be a package system and would be installed in the RAS/WAS building.

In addition to meeting future loading requirements, the sludge dewatering system is in need of additional capacity to meet the current loading conditions. A screw press dewatering system is recommended as the primary dewatering system. The screw press will be sized to handle the projected 2025 flow, operating 24 hours a day, 5 days a week. The existing belt filter press and dewatering beds will be used as a backup to the screw press. The proposed screw press system will be a package system that includes flocculation tank, polymer system, controls/sensors, conveyors, etc and will be located in a new steel building which will also house the existing belt filter press. The belt filter press will be moved from its current location to the new building. In addition to heating and plumbing, ventilation for odor control in the new dewatering building will be provided.

The current composting operation is labor intensive. Additionally, the City needs to provide for year-round composting and they need to reduce the odors caused by the existing compost operation. To meet these objectives, the proposed new equipment for composting will include blowers, a biofilter, compost mixer, and miscellaneous piping. Modification to the existing sludge drying beds will be required also. A rain/snow cover and larger loader are recommended and will be provided if funds are available. The project area and proposed improvements are shown in Figure 3.

Since construction was originally recommended/planned for 2005-2006 in the WFR and now construction will not likely occur until late 2008 or early 2009, the implementation of the Phase 1 improvements was restructured in the PDM to recommend a “Base Bid” project, for improvements considered to be higher priority, and to provide “Additive Alternates” for construction of lower priority improvements, in the event that the City receives lower than estimated bid costs or receives additional

funding from the U.S. Army Corps of Engineers (Water Resources Development Act), the Interior Department's State and Tribal Assistance Grants (STAG) program, or the Montana or the Community Development Block Grant (CDBG) program.

Phase 2 through Phase 4
For the WWTF to meet the future-anticipated discharge limitations, the WFR and PDM recommended the City plan on adding another anoxic selector basin and extended aeration basin for phosphorous removal in the Phase 2 improvements. The Phase 3 improvements would include further expansion to add an UV disinfection system, WAS/WAS pumping capacity, effluent pumping, upgrades to the operation building and lab/analytical equipment, and effluent filtration (if required by future discharge permits). The long-term improvements (Phase 4) would include new influent transfer pumping stations, new secondary splitter box, effluent filtration (to meet more stringent water quality limits if required), possible upgrades to the headworks, dewatering and biosolids processes, and installation of the third and larger secondary clarifier.

This Environmental Assessment is for the proposed Phase 1 improvements, which are scheduled to be complete by December 2009. The WFR provided a long term master plan for the wastewater treatment facility, which included the ultimate area that the WWTF could serve, and identified upgrade and capacity requirement programs for the WWTF through year 2025 and the long-term (2025 to 2045). A study area was defined for near-term planning of the WWTF and a planning area was determined to represent the ultimate service area boundary for the WWTF. The planning boundaries were established based on the ability to feasibly serve the areas and the areas developability. Significant growth was projected for the Hamilton area in the 2002 Ravalli County Economic Need Assessment (see Reference 4). This Assessment concluded the annual growth rate for Ravalli County will range from 2 to 4 percent per year. From the Economic Assessment, a growth rate of 4 percent was determined to be a conservative rate for the WFR for the next 20 years. Additionally, the city planning board established a Growth Policy for FY 2004-2008 (see Reference 5). The increasing population is stimulating the need for wastewater service into the planning area to prevent or reduce the nutrient loading to the groundwater, which the City wishes to protect. The sewer service planning area includes the 20-year planning area established in the Growth Policy. See Figure 4 for a map of the Planning and Service Area of the Hamilton WWTF. In 2004, the Hamilton WWTF provided service to a population of approximately 4,690 people (DOC 2007 population estimate).

The groundwater aquifers in the Hamilton area are the sole source of potable drinking water for the community and on-site wastewater disposal systems (septic tanks and drainfields) may be impacting the quality of the groundwater by contributing contaminants to the community drinking water supply. The City desires to take a leadership role in protecting the local environment, and maintain and improve the areas water resources. To meet this need, the City decided to develop a long-range plan to maintain and expand the city infrastructure in order to responsibly manage the local wastewater. The proposed expansion of the treatment facility will accommodate the additional connections.

The Bitterroot River is included in the State of Montana Section 303(d) list as a water quality limited stream segment and classified as a B-1 stream. B-1 waters are high-quality, suitable for drinking, culinary and food processing purposes, after conventional treatment; bathing, swimming and recreation; growth and propagation of salmonid

fishes and associated aquatic life, waterfowl, and furbearers; and agricultural and industrial water supply. The Bitterroot River is a tributary of the Clark Fork River, which is also Section 303(d) listed as water quality impaired. The Clark Fork River is included in the Voluntary Nutrient Reduction Program to control nutrient (nitrogen and phosphorus) enrichment. However, no specific wasteload allocation has been developed for the Bitterroot River. The TMDL has not been prepared for the Bitterroot River, but is expected in the next few years. In the absence of either the TMDL regulation or the wasteload allocation, the MDEQ has indicated to the City that "no net increase" in loadings will be allowed to water quality limited streams. Furthermore, as a result of the TMDL, the Hamilton WWTF will most likely be required to meet more stringent permit requirements for nutrients (phosphorous and nitrogen) and *E. coli* (year-round disinfection) in future permits. Future permit limits may require several unit process and/or operational changes before effluent from the wastewater treatment facility would meet new permit limits (to meet wasteload allocations) and once a TMDL or nutrient management plan has been adopted for the Bitterroot River. Future permits are likely to require year-round disinfection and will not allow a mixing zone for fecal coliform (*E. coli)*. Since chlorine is currently used for disinfection, dechlorination will likely be required in future permits.

Because the TMDL process is not complete and the discharge limits are not established for the WWTF, the facility cannot be expected at this time to be designed and constructed to meet the future (and unknown) TMDL and permit limits. However, construction of the proposed plant upgrades in the proposed phases would facilitate implementation of the permit limits that result from the TMDL process.

Because upgrading the WWFT and collection system is practical in terms of cost, environmental, and regulatory considerations, this alternative was recommended.

D. SELECTED ALTERNATIVE

The City feels that they must take a leadership role in protecting their potable drinking water source by expanding the city infrastructure into the outlying areas. By connecting the existing and future homes to the city wastewater collection and treatment system, the city feels they will protect their water supply (groundwater aquifer). Additionally, to meet the anticipated discharge limitations, the existing WWTF will require upgrades which will require a more advanced treatment process capable of additional nutrient removal. For these reasons, a no action approach to these concerns would have long-term consequences. Some of the existing treatment facility's major process equipment are 17 years old and are near the end of their useful life and some process equipment does not have adequate capacity to handle current peak flows or projected future flows. For these reasons, the recommended improvements/upgrades evaluated under Phase 1 should be considered high priority and should be completed as soon as possible. The Phase 1 improvements will provide capacity to year 2025. The longer-term improvements are to be completed in future phases and will provide for additional capacity and enhanced treatment, and would be for the ultimate expansion of the WWTF. A phased expansion program was recommended in the WFR to allow the City to prepare for future regulatory requirements and provide flexibility to future process changes.

E. COST COMPARISON

Costs for the proposed improvements are estimated to be $3,487,000. The City has

obtained two state grants. One for $750,000 from the Montana Department of Commerce Treasure State Endowment Program (TSEP) and one from the Department of Natural Resources and Conservation Renewable Resource Program for $100,000. The City also obtained a Federal grant is from the U.S. Army Corps of Engineers (Water Resources Development Act - WRDA) for approximately $260,000. The City has been appropriated a $500,000 "earmark" within the Interior Department's State and Tribal Assistance Grants (STAG) program. If the STAG money becomes available (late summer of 2009), the City will most likely use the money for lower priority improvements or to upsize some processes to facilitate future discharge requirements. A loan for $1,742,000 at 3.75% interest for 20 years will be obtained from the State Revolving Fund loan program. The City expects to pay approximately $635,000 in direct costs for the project.

Residential user rates are expected to increase from $19.07 /month to approximately $23.00 /month. The financial impact of this project on the system users is shown in Table 2. Based on the EPA guidance for project affordability, the proposed project will result in a monthly cost per household that is 1.13% of the monthly median household income and therefore is not expected to impose a significant economic hardship on household income.

TABLE 2
PROJECT AFFORDABILITY

Existing Monthly wastewater service rate [1]	$19.07
New monthly debt service and O&M increase [1]	$ 3.93
Total monthly user cost[1]	$23.00
Monthly median household income (mMHI)[2]	$1,834.00
User rate as a percentage of mMHI	1.13 %

1 December 5, 2007 Uniform Application for Montana Public Facility Projects and 2006 PER
2 Based on 2000 census data

IV. AFFECTED ENVIRONMENT

A. PLANNING AREA

The City of Hamilton is located in Ravalli County in southwest Montana and is located approximately 50 miles south of Missoula, Montana along State Highway 93. The study area and planning area boundaries are shown on Figure 4. The study area represents the area planned for near-term (approximately 10 years) City WWTF service and the planning area represents the ultimate service area boundary for the WWTF. The study and planning areas includes the incorporated boundary of the City and the adjacent parcels that may directly benefit from the upgrades to the WWTF. The land included in the Hamilton city limits generally slopes gently to the northwest and ranges from 3540 to 3590 feet above sea level. The land east of the city limits generally has steeper slopes and varied terrain. The current City limits include portions of Sections 19, 30, and 31 of Township 6 North, Range 18 West and Sections 24, 25, and 36 of Township 6 North, Range 19 West. The current City limits include residential homes, vacant lots, commercial businesses, and public entities. The Bitterroot River is located on west boundary of the study area. The duration of the Phase 1 construction at the WWTF should be approximately 12 months.

B. FLOW PROJECTIONS

The current (2002-2005) average wastewater inflow per day to the existing treatment facility is 0.74 million gallons per day (mgd). Organic and solids loadings are relatively consistent throughout the year. However, during the summer months, the inflow increases due to groundwater infiltration into the system by an average of approximately 100,000 gallons per day, with peak inflows of 1.26 mgd. Growth rates in Ravalli County and Hamilton are expected to be 4 percent for the 40 year planning period. Using this growth rate, the Hamilton WWTF service population is estimated to be 6,958 in the year 2015, 10,300 in the year 2025, and 22,569 in the year 2045. Based on these populations, the projected flow rates to the WWTF will average 1.14 mgd in year 2015, 1.62 mgd in year 2025, and 3.18 mgd in year 2045. The projected peak hour flow in year 2015 will be 3.76 mgd and 6.1 mgd in year 2025.

The Phase 1 through Phase 2 upgrades (target year 2015) will be designed to meet the following water quality levels.

Biochemical Oxygen Demand (BOD)	10 mg/L
Total Suspended Solids (TSS)	10 mg/L
Total Nitrogen	6 to 8 mg/L
Ammonia Nitrogen (N)	1 mg/L
Total Phosphorous (P)	1 mg/L

C. NATURAL FEATURES

Groundwater underlying the planning area generally flows north to northwest toward the Bitterroot River. The depth to groundwater in the area of the WWTF generally varies from 3 feet to 7 feet in the summer months and to as much as 30 feet in the winter. Some of the WWTF structure foundations are constructed below the groundwater table. No Phase 1 improvements are planned to include deep excavations and therefore dewatering will not likely be required.

The Bitterroot River is classified as a B-1 stream by according to the Montana Surface Water Quality Standards. B-1 waters are high-quality, suitable for drinking, culinary and food processing purposes, after conventional treatment; bathing, swimming and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl, and furbearers; and agricultural and industrial water supply.

D. POPULATION

The Hamilton WWTF provided service to a population of approximately 4,690 people (DOC 2007 estimated population). Significant growth was projected for the Hamilton area in the 2002 Ravalli County Economic Need Assessment (see Reference 4). This Assessment concluded the annual growth rate for Ravalli County will range from 2 to 4 percent per year. From the Economic Assessment, a growth rate of 4 percent was determined to be a conservative rate for the WFR for the next 20 years. Additionally, the city planning board established a Growth Policy for FY 2004-2008 (see Reference 5). The increasing population is stimulating the need for wastewater service into the planning area to prevent or reduce the nutrient loading to the groundwater, which the City relies on for drinking water and wishes to protect. The sewer service planning area includes the 20-year planning area established in the Growth Policy. See Figure 4 for a map of the Planning and Service Area of the Hamilton WWTF. The planning boundaries were established based on the ability to feasibly serve the

areas and the areas developability. Using a 4 percent growth rate, the Hamilton WWTF service population is estimated to be 6,958 in the year 2015, 10,300 in year 2015, and 22,569 in the year 2045.

E. MAPS

Figure 1 shows the general location of the City of Hamilton within the state of Montana and Figure 2 shows the existing treatment facility. The project area and proposed improvements are shown in Figure 3. Figure 4 shows the Planning and Service Area of the Hamilton WWTF.

V ENVIRONMENTAL IMPACTS OF PROPOSED PROJECT

A. DIRECT AND INDIRECT ENVIRONMENTAL IMPACTS

1. Land Use – The existing wastewater treatment plant has been in operation at the current location since 1984. The surrounding properties to the North and South of the plant are currently platted and developed with urban uses. The facility is bounded on the west by the Bitterroot River and the property to the East is City owned property, un-developed at this point and intended to provide some land area buffer and allow future expansion of the WWTF. The proposed Phase 1 improvements will be within the existing footprint of the existing facility. Sufficient area is available within the existing WWTF boundaries for future phases of improvements that have been identified to date. The un-developed property was purchased by the City in 2000 and had historically been farmed. The construction of a new facility will not have an impact on local growth issues. There may be an indirect beneficial impact to the extent that the project influences development patterns towards less rural sprawl and more concentrated urban development. However, increased population within the study area, may offset this trend. No unique forest or agriculture lands exist within, or adjacent to the planning area.

2. Floodplain – The proposed project is not located within a delineated 100-year floodplain. Portions of the WWTF are located in the flood fringe, situated within the 500-year floodplain.

3. Wetlands – No wetlands will be impacted by the proposed construction of the Phase 1 improvements. However, there may be impacts to wetlands associated with growth around the community as the study area develops. This impact would be an indirect result of the improvements and should be controlled by the County and/or City as the growth occurs. Before dredged or fill material can be discharged or placed into waters of the United States, including wetlands, a 404 permit must first be obtained from the U.S. Army Corps of Engineers. Before issuing this permit, any potential, future impacts to wetlands will be addressed.

4. Cultural Resources – The expanded wastewater treatment plant should not impact historic or cultural resources since all new facilities will be constructed within the existing plant boundary. The State Historic Preservation Office (SHPO) reviewed the proposed project. SHPO feels that since a majority of the project will be taking place in previously disturbed ground, and within street right-of-ways there is a low likelihood cultural properties will be impacted. As such, SHPO feels a cultural resource inventory is unwarranted at this time. However, should cultural materials be inadvertently discovered during this project, SHPO should be contacted and the site investigated. In addition, it is SHPO's position that any

structure over fifty years of age is considered historic and is potentially eligible for listing on the National Register of Historic Places. If any structures over fifty years old are to be altered, SHPO recommends that they be recorded and a determination of their eligibility be made.

5. Fish and Wildlife – Aquatic and animal life will not be significantly affected by the proposed project. The project should not affect any wildlife habitats and will provide water quality benefits that will protect and reduce the risk of harm to fisheries and other animals. The proposed WWTF and proposed improvements are located in an area where Endangered Species Act listed species may occur, specifically the threatened bull trout and critical bull trout habitat. The U.S. Fish and Wildlife Service has requested that bull trout be considered when proposed activities are planned. Further, U.S. Fish and Wildlife Service has also indicated that groundwater quality issues may be affected by this project. Since wetlands, the groundwater, and the Bitterroot River are not affected by the proposed Phase 1 improvements, the project is not anticipated to directly impact the habitat of endangered plant or animal species.

6. Surface Water Quantity and Quality – Increased flows will be treated and discharged to the Bitterroot River as the service population increases. It is estimated that with the Phase 1 improvements, the average annual flow discharged to the Bitterroot River will eventually increase to 1.62 mgd. Increasing the volume discharged from the Hamilton wastewater treatment plant by 0.88 mgd over the existing average design flow should not result in significant changes in water quality primarily due to the higher level of treatment that the new facility will provide (expected in Phase 3 and 4 improvements). Scouring of the river due to the increased flow is not a concern since the additional flow increases the lowest daily mean flow rate by less than 2%. Increasing the volume of solids processed at the WWTF should not result in significant changes in water quality primarily due to the higher level of treatment that the City WWTF provides. By leveling out the recycle flows from the drying bed technology, the WWTF will also be able to reduce the level of phosphorous loading from the dewatering operations. Water quality should improve due to the proposed project. The proposed project should prevent water quality standards violations and provide better treatment of the wastewater. Ammonia toxicity and high fecal coliform numbers due to wastewater should not occur in the receiving stream with the proposed system.

The Hamilton WWTP discharges to the Bitterroot River, which is listed on the State's 2006 303(d) list of impaired water bodies (i.e., water bodies that do not support a beneficial use). Causes of impairment include: low flow alteration, nutrients (total phosphorus and total nitrogen (nitrate + nitrite), sedimentation/siltation, temperature, and other habitat alteration. Probable sources of the impairment include: agriculture, irrigated crop production, wet weather discharges, combination stormwater, habitat modification, and hydromodification. Some of the water quality problems in the Bitterroot River can be associated with pollutants that are discharged from the wastewater treatment facilities discharging to the river, particularly nutrients. As a means of restoring water quality in the river, a total maximum daily load (TMDL) that will lower loadings to the river will be prepared in the future. Although the TMDL process has not been finalized yet for the Bitterroot River, it is likely that load reductions for nutrients will be sought when the TMDLs are completed in the future. Because the TMDL process is not complete, the facility cannot be expected at this time to be designed and constructed to meet the future (and unknown) TMDL and resulting permit limits. However, construction of the proposed Phase 1 improvements is a necessary first step in allowing the facility to meet the permit limits that result from the TMDL process.

7. Groundwater Quantity and Quality – Groundwater underlying the planning area

generally flow north to northwest toward the Bitterroot River. The depth to groundwater in the area of the WWTF generally varies from 3 feet to 7 feet in the summer months and to as much as 30 feet in the winter. Some of the WWTF structure foundations are constructed below the groundwater table. No Phase 1 improvements are planned to include deep excavations and therefore dewatering will not likely be required. No significant long-term impact to groundwater quality is anticipated by the proposed improvements. In fact, it is expected that over the long-term, the groundwater quality will improve as the increase in proposed treatment capacity of the treatment system will allow areas currently served by on-site treatment system to connect to the Hamilton WWTF, eliminating the discharge of nutrients to the groundwater.

8. Air Quality – Short term negative impacts on air quality will occur during construction from heavy equipment in the form of dust and exhaust fumes. Proper construction practices will minimize this problem. Project specifications will require dust control. The existing WWTF has some odors associated with the headworks, aerobic digesters, solids storage basins and seasonal sludge dewatering/drying beds. In addition, the City now operates the mechanical dewatering belt filter press which also contributes to odor emissions. These odors have not been a significant issue for the community, except during times of major treatment process disruption or early season dewatering operations. The proposed upgrade of the mechanical bar screen, modification of the solids dewatering vacuum drying beds, and enhancement of the facility composing operations should help to reduce the frequency of adverse odors. Some degree of odors will continue to be associated with the facility. Odor reducing strategies and technologies (e.g. biofilters) will be incorporated in the future designs considerations as necessary.

9. Public Health – Public health impacts will minimized with the proposed project. Removal of the on-site drying of the screenings materials and enclosed dewatering/drying of solids material will have a direct beneficial impact on the public health and safety by improving and protecting the surrounding areas and the Bitterroot River as a recreational amenity. Proposed WWTF improvements will replace the existing mechanical bar screen and add a screenings washer/compactor system and grit handling system. This will eliminate a serious potential public health and safety risk for the plant staff and surrounding public.

10. Energy – The consumption of energy resources directly associated with construction of the recommended improvements is unavoidable, but will be a short term commitment. Additional energy will be required to operate the expanded wastewater dewatering and drying treatment facilities. The impact of this additional energy consumption will be minimized as much as possible through the use of energy efficient pumps, vacuum units, lighting, etc.

11. Noise – Short-term impacts from excessive noise levels may occur during the construction activities. The construction period will be limited to normal daytime hours to avoid early morning or late evening construction disturbances. The existing and proposed facility improvements generate very little noise. The WWTF is located within a residential area, and careful consideration of offset noise control has been and will continue to be a focus of the City. No significant long term impacts from noise will occur.

12. Sludge Disposal – Improvements will include a screw press/dewatering facility and enhancements to the existing City composting operations. The solids dewatering process will efficiently remove excess water from the biosolids, thereby reducing the need for hauling biosolids to an off-site composting facility. All sludge generated at this facility will continue to be disposed of in accordance with EPA's 503 regulations, with the added benefit of being able to effectively process solids year-round.

13. Growth – Improvements of the wastewater treatment system may result in secondary impacts that are associated with the growth of the community. Population has been increasing rapidly in the Bitterroot valley and the Hamilton area since the 1990's. This project would allow the City to manage its growth in a proactive manner and promote urbanization within its service area. Growth rates are projected from the past trend. The anticipated increase in population and development in the service area would result in increased flows to the wastewater treatment facility. Secondary impacts may include impacts for housing, commercial development, agriculture lands, solid waste, transportation and utilities.

14. Cumulative Effects – No significant adverse impacts are anticipated.

B. UNAVOIDABLE ADVERSE IMPACTS

Short-term construction related impacts (i.e., noise, dust, traffic disruption, etc.) will occur but should be minimized through proper construction management. Energy consumption during construction cannot be avoided.

VI PUBLIC PARTICIPATION

On February 21, 2006 Mayor Jessica Randazza signed the resolution to authorize the 2006 Wastewater Facility Plan Update for the Phase I improvements. A public hearing was held by the City Council for the purpose of obtaining public comments for the proposed improvements recommended in the update to the wastewater treatment on April 4, 2006. A presentation was made by a representative of HDR Engineering which outlined the priority improvements, costs, and consequences of inaction, possible grant funding sources and impact to existing wastewater utility customer rates. Four individuals from the public presented comments, which included: concern that impact fees are necessary to pay for improvements so increased rates are not necessary for expansion; recommended that the City make every effort not to increase rates; wanted a clarification if the Phase I improvements were for plant expansion or for replacements; if the improvements are not for quality/regulatory improvements or expansion, then the existing rate payers should not bear the cost (of expansion). One person felt that the public hearing notice was not in the paper or government calendar and that it was not clear "what is going on" and therefore "the council is not getting much input from the public".

VII REFERENCE DOCUMENTS

The following document has been utilized in the environmental review of this project and is considered to be part of the project file:

1. Wastewater Facility Plan Update February 2006; prepared for the City of Hamilton, by HDR Engineering, Inc, Missoula, Montana, May 15, 2006,
2. Wastewater Facility Plan Update Amendment March 2008; prepared for the City of Hamilton, HDR Engineering, Inc., Missoula, Montana,
3. Preliminary Design Memoranda Wastewater Treatment Plant Phase 1 Improvements Project; prepared for the City of Hamilton by HDR Engineering, Inc, Missoula, Montana, July 31, 2008,
4. Ravalli County Economic Needs Assessment; prepared by Dr. Larry D. Swanson, O'

Conner Center for the Rocky Mountain West, University of Montana, for the Ravalli County Economic Development Authority, November 2002,
5. City of Hamilton Planning Board; "FY 2004-2008 Growth Policy", September 2003,
6. Uniform Application Form for Montana Public Facility Projects for the City of Hamilton Wastewater Treatment Plan Upgrade and Expansion; December 12, 2007.

VIII. AGENCIES CONSULTED

The following agencies have been contacted in regard to the PER, which determined the basis for the proposed wastewater treatment and collection system project:

1. The Montana Department of Fish Wildlife and Parks (FWP). The FWP reviewed the proposal and had no comments regarding the project. Therefore, significant impacts to listed species of wildlife or to nongame species of special interest or concern are low.

2. The U. S. Fish and Wildlife Service (FWS) reviewed the proposed project and determined the proposed project is located in an area where listed species may occur, including the threatened bull trout (*Salvelinus confluentus*) and bull trout critical habitat. Listed species and critical bull trout habitat are protected under the Endangered Species Act. The FWS encourages the City to consider the bull trout habitat needs and recommended the City analyze potential impacts to bull trout and bull trout critical habitat when planning the proposed activities. The proposed improvements will occur within the wastewater treatment site and will not negatively impact the bull trout or bull trout habitat. Effluent water quality should improve as a result of the proposed and future projects.

3. The Montana State Historic Preservation Office (SHPO) considered the impacts of the proposed project on historical sites and cultural resources and indicated there appears to be no recorded sites within the project area and there is a low likelihood cultural properties will be impacted. The Montana State Historic Preservation Office asks to be contacted and the site investigated should cultural materials be inadvertently discovered during construction.

4. The U.S. Army Corps of Engineers (COE) reviewed the proposed project and responded that if construction activities includes the discharge of fill material, either permanently or temporarily into waters of the United State and lakes or ponds connected to the tributary system, and wetlands adjacent to these waters, then a Department of Army Section 404 permit may be required. The proposed improvements will occur within the wastewater treatment site and will not impact wetlands.

5. Department of Natural Resources and Conservation (DNRC) was contacted and asked for comments regarding the proposed project. However, no response was received. The Bitterroot River floodplain has been mapped in the project area. The wastewater treatment facility is not located within the 100-year floodplain. Portions of the site are located within the flood fringe, situated within the 500-year floodplain. No impact to the either floodplain is expected because of the proposed improvements.

Recommendation for Further Environmental Analysis:

[ ] EIS [ ] More Detailed EA [X] No Further Analysis

Rationale for Recommendation: Through the Wastewater Facility Plan Update February 2006, prepared by HDR Engineering, Inc. and the public process involved, the City of Hamilton determined that the preferred wastewater treatment system alternative will improve the operation and maintenance capabilities of their system. Through this EA, the MDEQ has verified none of the adverse impacts of the proposed Wastewater Treatment Facility Upgrade are significant; therefore an environmental impact statement is not required. The environmental review was conducted in accordance with the Administrative Rules of Montana (ARM) 17.4.607, 17.4.608, 17.4.609 and 17.4.610. This EA is the appropriate level of analysis because none of the adverse effects of the impacts are significant. A Finding of No Significant Impact (FONSI) will be issued and legally advertised in the local newspaper and distributed to a list of interested agencies. Comments regarding the project will be received for 30 days before final approval is granted.

EA Prepared By:

_____ _____
Jerry Paddock P.E. Date

Approved By:

_____ _____
Mike Abrahamson P.E. Date

FIGURE 1
LOCATION MAP

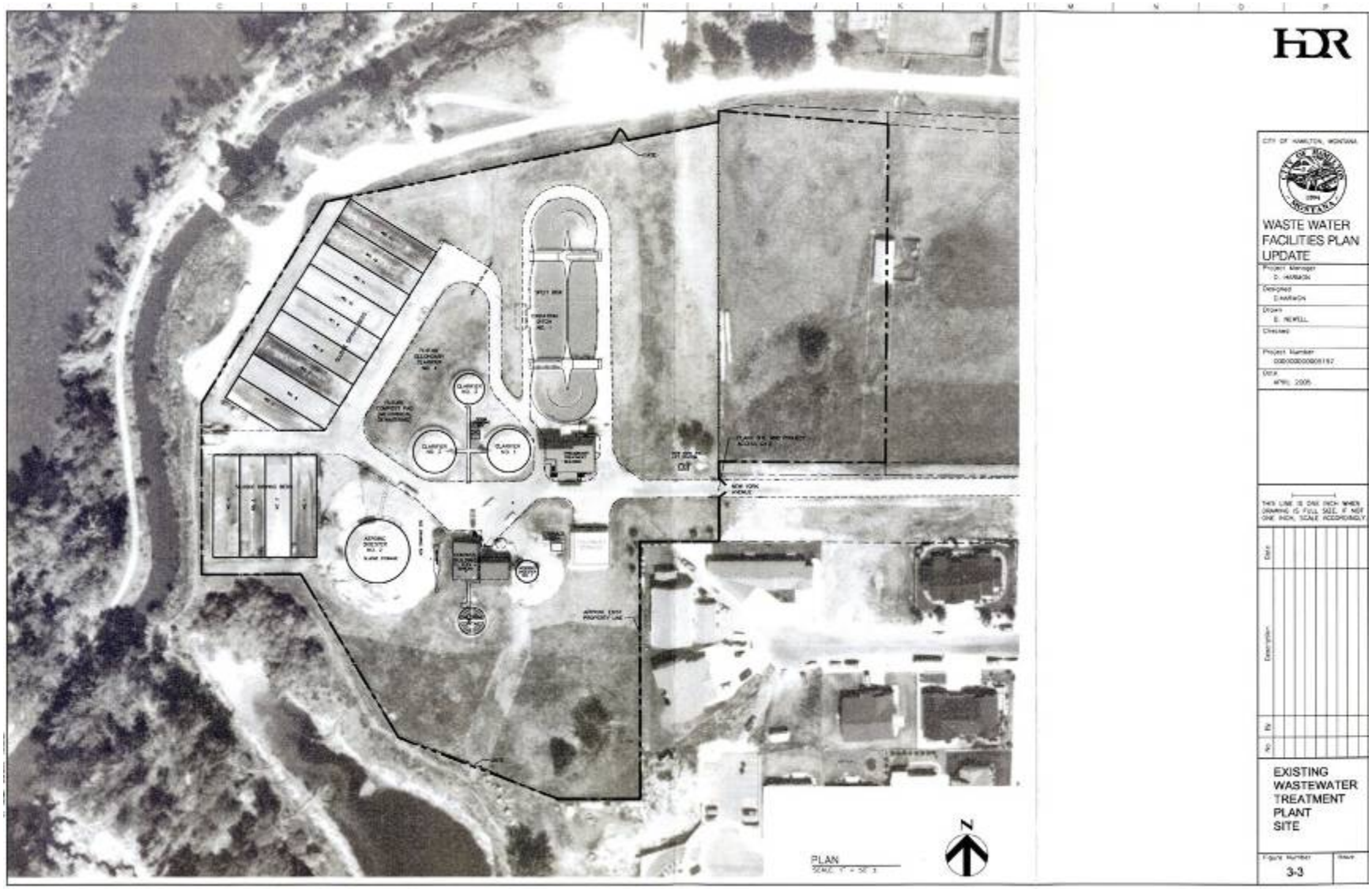

FIGURE 2
EXISTING WASTEWATER TREATMENT FACILITY

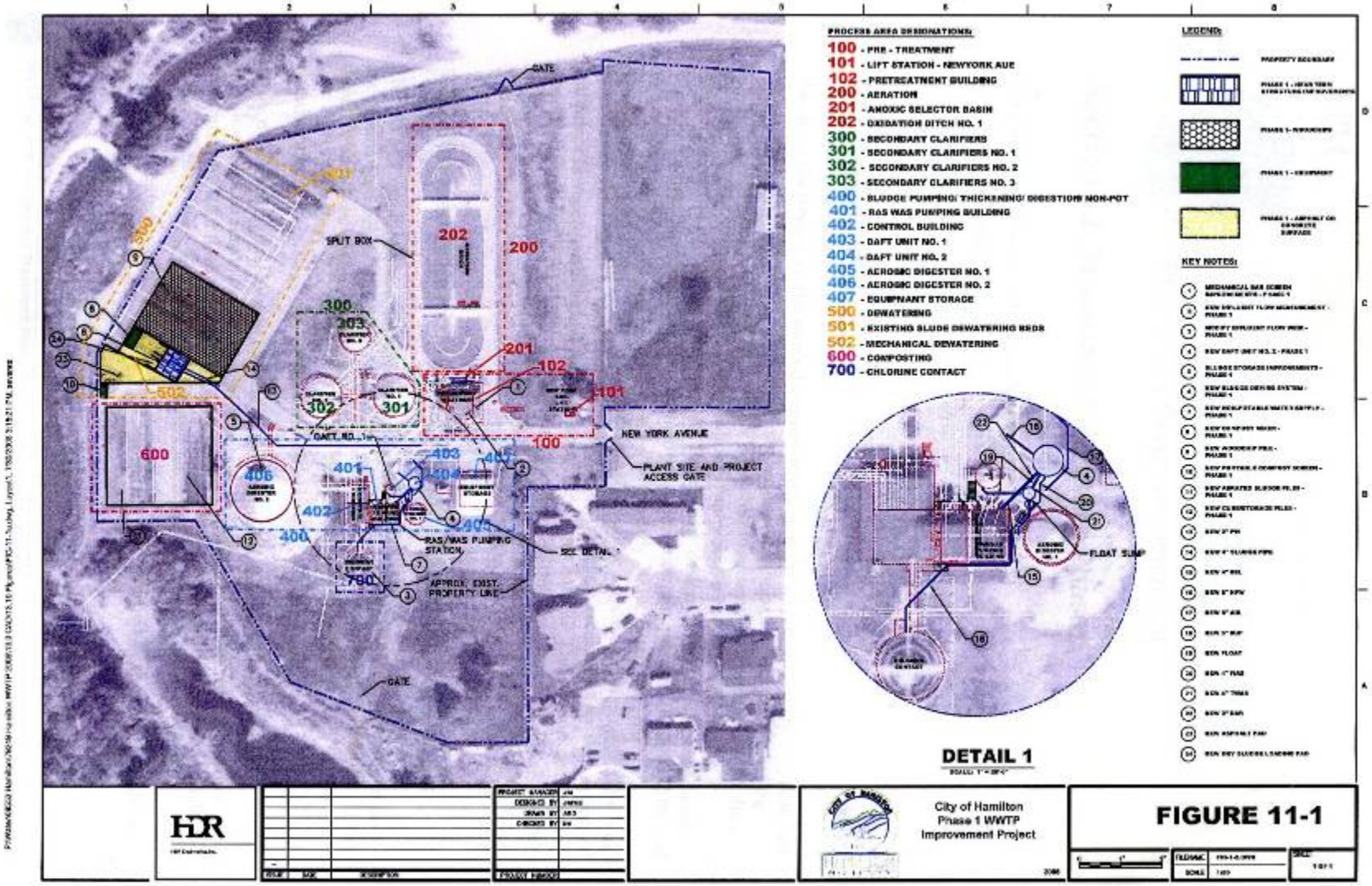

FIGURE 3
PROPOSED PHASE 1 IMPROVEMENTS
HAMILTON WASTEWATER TREATMENT FACILITY

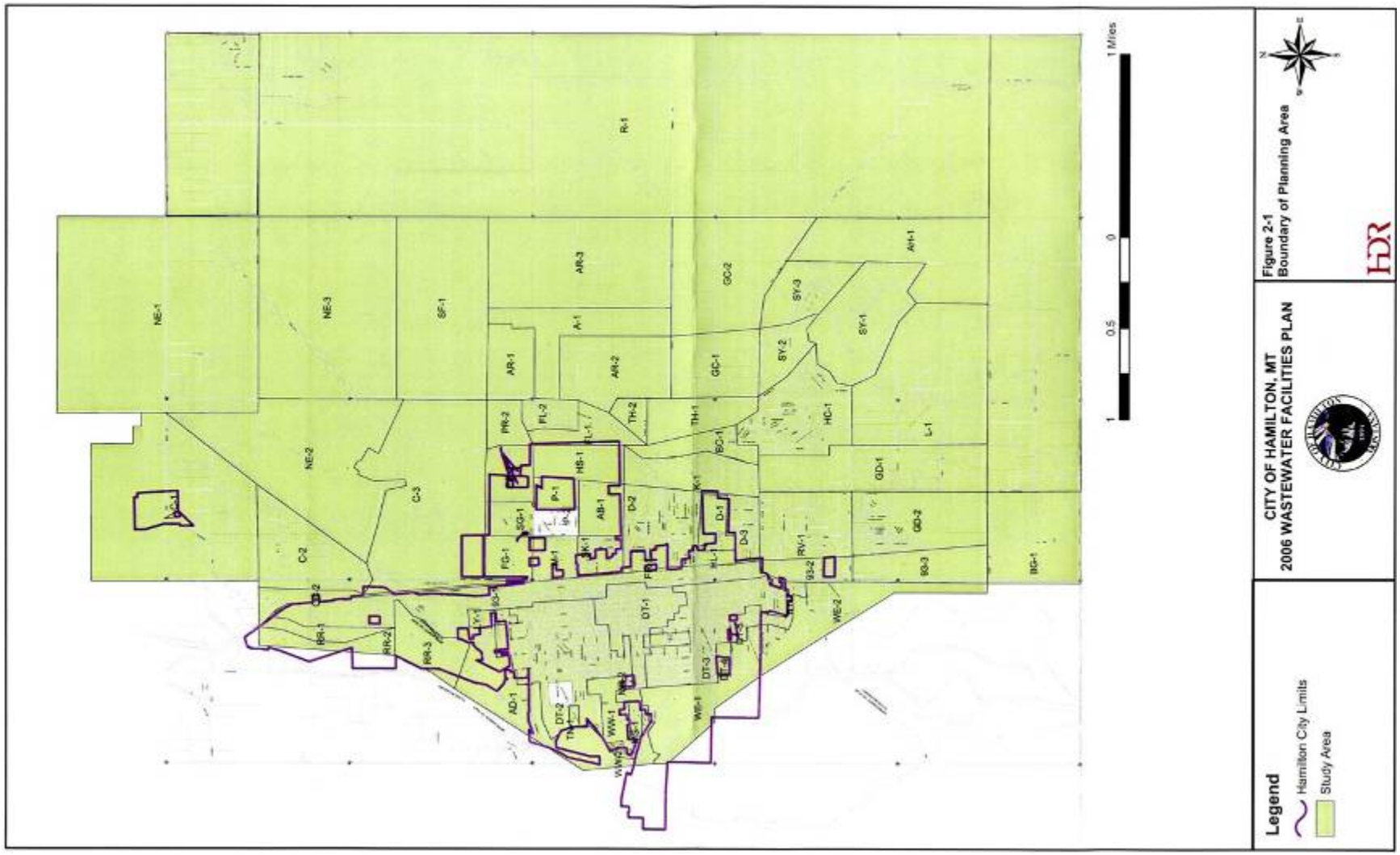

FIGURE 4
HAMILTON BOUNDARY OF STUDY AREA
AND 2045 PLANNING AREA